

A. Technical Publications

a. Patents :

1. V.I.Gavrilenko, **N.G.Kalugin**, Z.F.Krasil'nik, V.V.Nikonorov, E.V.Starikov, P.N.Shiktorov, "Semiconductor cyclotron resonance maser", *Author rights SU 1646456 A1*, USSR, 5/10/1989.

The first ever semiconductor maser (p-Ge THz NEMAG)

2. M.O.Scully, **N.G.Kalugin**, Yu.V.Rostovtsev, "Coherent scattering THz generator", *US patent pending* (disclosure of invention TAMUS-2311), 2005.

b. Journal Articles

1. V.I.Gavrilenko, **N.G.Kalugin**, Z.F.Krasil'nik, V.V.Nikonorov, E.V.Starikov, P.N.Shiktorov, "Cyclotron resonance of negative mass holes in germanium subjected to H nonparallel to [001]", *Sov.Phys.Semicond.*, vol. 24, (5), pp. 521-523, 1990. (*Fizika i Tehnika Poluprovodnikov* vol. 24, (5), pp. 825-829, 1990, in Russian)

2. V.I.Gavrilenko, **N.G.Kalugin**, Z.F.Krasil'nik, V.V. Nikonorov, E.V.Starikov, P.N.Shiktorov, "Stimulated cyclotron radiation of heavy holes in uniaxially deformed germanium", *Sov.Phys.Semicond.*, vol. 25, (4), pp. 432-435, 1991. (*Fizika i Tekhnika Poluprovodnikov*, vol. 25, (4), pp.718-721, 1991,in Russian)

3. V.I.Gavrilenko, **N.G.Kalugin**, Z.F.Krasil'nik, V.V.Nikonorov, A.V.Galyagin, P.N.Tsereteli, "Inverted distributions of hot holes in uniaxially stressed germanium", *Semic. Sci.Technol.* vol. 7, (3B), pp. B649-651, 1992.

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4. **N.G.Kalugin**, L.K.Orlov, O.A.Kuznetsov, "Observation of 2D-exciton luminescence in germanium layers of periodic Ge-GeSi heterostructures", *JETP Lett.*, vol. 58, (3), pp. 200-205, 1993.

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6. **N.G.Kalugin**, L.K.Orlov, O.A.Kuznetsov, Photoluminescence of 2D-excitons in Ge layers of Ge-GeSi multiple quantum well structures, *Sol.St.Phenom.* v. 32/33, pp. 475-480 (1993).

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11. A.V.Chernenko, **N.G.Kalugin**, O.A.Kuznetsov, Z.F.Krasil'nik, „Magnetoluminescence of Ge/GeSi structures: nature of lines and role of interface roughness”, *Phys.Low.-Dim. Struct.*, vol. 1/2, pp. 9-15, 1998.

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12. V.Ya.Aleshkin, N.A.Bekin, **N.G.Kalugin**, Z.F.Krasil'nik, A.V.Novikov, V.V.Postnikov, H.Seyringer, "Self-organization of germanium nanoislands obtained in silicon by molecular-beam epitaxy", *JETP Lett.*, vol. 67, (1), pp. 48-53, 1998.

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The result reported in the article has been mentioned the 2011 Technology Review of Laser Focus World: <http://www.laserfocusworld.com/articles/print/volume-47/issue-12/features/technology-review-2011-photonics-reaches-from-science-to-the-consumer-world.html>

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c. Symposia/Conference Proceedings

1. V.I.Gavrilenko, **N.G.Kalugin**, Z.F.Krasil'nik, V.V.Nikonorov, "Influence of uniaxial deformation on induced cyclotron radiation of negative effective mass holes", *Proceed. of 2nd All-Union School-Seminar „Interaction of electromagnetic waves with semiconductors and semiconductor-dielectric structures“*, Saratov, Russia, part 2, pp. 7-8 (in Russian), 1988.

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9. O.A.Kuznetsov, L.K.Orlov, R.A.Rubtsova, A.L.Chernov, V.I.Vdovin, N.A.Gorodilov, **N.G.Kalugin**, V.I.Gavrilenko, "Investigations of 2D hole gas in strained Ge-GeSi superlattices", *Proceed. of International Conference „Gettering and Defect Engineering in Semiconductor Technology“ (GADEST-93)*, Frankfurt-Oder, Germany, 1993.

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